

WASTEWATER TREATMENT IMPACT FEE STUDY



CITY OF HALLANDALE BEACH, FLORIDA

FY 2009

Prepared by:

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EXECUTIVE SUMMARY

The public can best be served by a utility that is a self-sustaining enterprise adequately financed with rates based on sound, established engineering and economic principles. Proper fiscal planning involves comparing projected utility revenue sources with the revenue requirements. The City of Hallandale Beach currently owns and operates several wells, a water plant, and water distribution and wastewater collection systems. This report analyzes the impact of growth within the community of Hallandale Beach on the Southern Regional Wastewater Treatment System, of which the City of Hallandale Beach is a Large Users. The City of Hallandale Beach's impact fee rate analysis was based on data for the Large Users as provided to the consultants. The City of Hallandale Beach would like to capture these capital costs for new development from the new development as opposed to existing ratepayers. This report is designed to provide a means to support a treatment capacity impact fee to be enacted by the City of Hallandale Beach.

INTRODUCTION

Corporate Limits

The City of Hallandale Beach was incorporated under the laws of the State of Florida in 1927. The City consists of 4.3 square miles located on the beach at the Broward-Miami-Dade County Line. The City serves all of the community within its limits with water and sewer service. The community is primarily residential, with concentrations of light industry, shopping and offices within the corporate limits.

Summary of the System

The City of Hallandale Beach currently owns and operates several wells. The City's wells withdraw water from the Biscayne Aquifer. Southeast Florida is underlain by a series of interspersed rock formations with varying permeability. The uppermost formation generally encountered along the southeast coast is the Pamlico Sand formation. Beneath the Pamlico Sand, the entire south Florida plain is underlain by beds of porous limestone that absorb water standing on the land during the wet season (mostly in the Everglades) and transmit it to the coast. These formations compose the wedge-shaped Biscayne Aquifer, which gains thickness as it approaches the coast, where it can extend up to 200 feet deep. The City owns one mixed lime softening/nanofiltration water treatment plant. The treatment plant contains accelerators, filters, nanofiltration skids, cartridge filters and chlorination facilities. The water treatment system is designed to remove color, hardness and certain quantities of organic matter that comes from the Everglades. The current treatment facility provides water that meets all current State and Federal drinking water standards. The City also owns and operates a water distribution system and sewer collection system. The City contracts with the City of Hollywood for wastewater treatment and disposal. However, the costs for capital for the South Regional Wastewater Treatment Plant owned and operated by the City of Hollywood are passed to the Large Users. The City of Hallandale Beach would like to capture these capital costs for new development from the new development as opposed to existing ratepayers. This report is designed to provide a means to support a treatment capacity impact fee to be enacted by the City of Hallandale Beach.

IMPACT FEES (from Bloetscher, 2008, unpublished)

Impact fees are charges imposed against new development or connections to provide the cost of capital facilities made necessary by that growth. Case law was derived from City of Dunedin v. Contractors and Builders Association of Pinellas County, 312 So. 2d 763 (Fla. 2nd DCA 1975), which concluded that where a utility's "water and sewer facilities would be adequate to serve its present inhabitants were it not for drastic growth, it seems unfair to make the existing inhabitants pay for new systems when they have already been paying for the old ones." This case is the basis for much of the current impact fee law in Florida and nationwide.

Impact fees have been extensively litigated within the State of Florida; less so in other locales. Still the Florida case law is cited in impact fee cases throughout the nation and the basic tenets are upheld. As developed under this case law, impact fees must meet the "dual rational nexus" test. The first prong of the test requires that there be a reasonable connection between the anticipated need for additional facilities and anticipated growth; the second prong requires that there be a reasonable connection between the expenditure of impact fee revenues and the benefits derived by new connections. Hollywood, Inc. v. Broward County, 431 So. 2d 606 (Fla. 1st DCA 1983). In addition, case law requires that these fees be just and equitable. As a result, a profit cannot be earned on impact fees; they must be related to the actual cost of providing the service, as defined in the second prong of the dual rational nexus test.

Florida case law provides that impact fees may not exceed a pro rata share of the reasonably anticipated costs of capital expansion necessitated by growth and new development. However, there is no legal requirement that the entire cost of expansion necessitated by growth be recovered through the impact fee. Indeed, impact fees rarely cover all of the costs associated with growth, and most local governments view the fees as supplemental to other available funding sources. In Hollywood, Inc. v. Broward County, the impact fees in question were shown to be less than the amount required for capital outlay, a fact that the court found indicative of an equitable pro rata sharing of costs.

Utilities have instituted impact fees as a method to generate contributions from new customers for financing major facility construction necessitated by the addition of those new customers. To meet the dual rational nexus test, these charges are typically based on the incremental or marginal costs of providing the service, an average cost to provide an incremental portion, or estimate of the cost of the construction to be provided. Because facility planning timelines may be extensive, and because of the geographical variance in growth demands, a multi-year estimate is utilized to forecast needed expenditures and proper impact fee amounts.

The driving force behind impact fees is the sentiment to have growth pay for growth. The magnitude of impact fees varies throughout the country, depending on how each municipality or the utility addresses the demands of new growth. For utilities in Florida, impact fees gained considerable favor after passage of the 1985 Growth Management

Act, which requires localities to have capital infrastructure, including water and sewer service, available at the time development actually occurs. These large facilities are often financed through the issuance of municipal bonds which are repaid in some measure by impact fees.

In establishing impact fees for water and sewer services, the findings that are typically made by governing bodies contemplating the use of impact fees, are:

- That the land regulations and policies require owners of land to connect to regional facilities when they become available;
- That the future demands on the system from growth must contribute their fair share to the cost of improvements and additions to the regional system;
- That these contributions are an integral and vital element of the regulatory and growth management plan;
- That capital improvement planning is an evolving process defined by a level of service adopted by the governing body;
- That the impact fees will protect the interests of the citizens currently served or intended to be served by the utility system, which enhances the health, safety and general welfare of the residents and landowners within the utility's service area;
- That the imposition of the impact fees is an important source of revenue; and
- That the deficiencies that exist between the existing system and the adopted level of service cannot be funded through impact fees.

Impact fees are typically limited to major treatment and transmission system improvements required to accommodate future connections or demand as a result of new development, or the connection of existing areas without service to the system.

During growth cycles, the revenue collected through impact fees can be considerable. However, since they are tied to growth, significant fluctuations may occur from year to year, based on local and national economic conditions. As a result, the revenues are not always predictable, making pledges toward debt service of these funds difficult without supplemental revenue pledges. In addition, high levels of impact fee collections may or may not coincide with the expansion of new facilities, which typically require 3 to 5 years to plan, design and construct.

High impact fees may discourage the growth that impact fees are intended to pay for. In areas that are trying to grow in order to continue the growth of the tax base and services, high impact fees are a problem. However, having a subsidy by current ratepayers to encourage growth may be equally unsatisfactory. In other areas where growth is too rapid, impact fees charged at the full cost of providing the facilities (not subsidized), may help to control growth.

There are a number of instances where impact fees logically do not apply, as they have no regional benefits. Such facilities would include:

- Small gravity sewer lines;

- Local water lines;
- Neighborhood pump stations and attendant force mains;
- Interconnecting transmissions lines and other facilities typically installed and dedicated to the utility at the time of construction of subdivisions or developments by developers, by assessment districts, municipal service taxing or benefit units (MSTU/MSBUs), or like similarly or specially funded projects in areas determined to need new installations or retrofits; or
- Connections to the utility system.

These improvements serve a limited geographical area. They are generally termed “subdivision infrastructure.” All properties that are connecting to a regional system are subject to payment of impact fees at the time of connection to the regional system, in addition to any costs for installation of subdivision infrastructure (normally both are paid as a part of new lot costs).

In determining the value of an impact fee, an important consideration for any defense in the event of a challenge, is that the impact fee should reflect the incremental costs to provide the treatment and transmission capacity for the consumer. As such, the present worth of any debt service amounts that would be paid for during the life of a customer being connected to this system on a current debt could be deducted from the impact fee value. For example, assuming that a single family home requires an average of 350 gallons per day of water service (as PRMG did for the City’s recent rate study), 350 gallons of treatment plant capacity must be set aside for the house. Assume this cost is determined to be \$850, based on the cost of expanding the treatment plant, divided into 350 gallon increments. Next, assume the transmission and pumping costs for the storage tanks, high service pumps and major transmission system to deliver the water to the local area is \$500. The impact fee value would then be \$1,350. However, if existing utility rates already include a debt service component for an outstanding bond issue that the new customer will pay as part of the monthly service charge, the present worth value of that bond issue could be deducted from the \$1,350, otherwise the customer is paying twice, both for his expansion needs and for infrastructure already in place, and the impact fee could be argued improper under challenge. The present worth of debt paid as a part of periodic water bills will vary according to particular circumstances; assuming a present worth of \$250 for purposes of this example, the value of the impact fee would be limited to about \$1,100.

Likewise, commercial customer impact fees could be determined by a similar methodology. The City’s rate consultant PRMG used the figures from Florida Administrative Code 64E-6 to calculate impact fees for water use (such as 15 gallons per restaurant seat, etc). As a result, to prevent confusion about methods, this same system can be used.

HALLANDALE BEACH IMPACT FEE CALCULATION

In developing the appropriate funding levels for impact fees, the options for funding the capital projects anticipated to meet future demands should be established. This would include separating repair and replacement projects, deficiencies in the current system and future growth into the appropriate funding mechanisms, whether that is bonds, operational transfers, impact fees or other revenues levied in accordance with generally-accepted accounting principles or utility and legal precedents, and utilizing counsel and financial professionals as necessary. Appropriate funding levels must then reflect the true cost of growth.

Only improvements related to capacity increases are eligible for impact fee contributions. This analysis of the City of Hallandale Beach's impact fees was based on data provided by the City of Hallandale Beach, FDEP, Maximus and the City of Hollywood. Wastewater transmission capacity was defined by PRMG in a recent study and is not included herein. Wastewater treatment plant capacity is provided by the City of Hollywood. Table 1 outlines the projects associated with debt for the City of Hollywood's wastewater treatment plant, broken down between growth and rehabilitation projects. The initial assumption is that the City of Hollywood has been on a more or less continuous set of upgrades from 38 MGD in 1990 to 50 MGD, in accordance with the provisions of the Large User agreements. Those agreements stipulated that by 2000 the City of Hollywood would expand the plant to meet Large User needs, but in 2000, the need was not present, so the upgrade to 50 MGD was deferred. However, the incremental increases from 38 to 42 to 45 to 48.5 MGD have been undertaken through the series of bond and SRF projects noted in Table 1. Debt for all of them remains ongoing. These projects are a mix of expansion, rehabilitation and both. Maximus and the City of Hollywood devised an allocation of debt for expansion and rehabilitation in the Large User True-up. The Large User True-up figures were accepted at face value.

The analysis developed in this report for the City of Hallandale Beach mirrors a prior analysis performed for Hollywood that allocates the estimated costs for the plant for expansion projects through 50 MGD, the Large User agreement basis for capacity allocation. The resulting analysis noted that Hollywood directly uses the impact fees to buy down their share of the debt principal each year, which is what they indicated they would do. The City of Hollywood accumulates this portion of the fee and pays it semi-annually. Because a part of the Large User fees paid each month is charged debt service on the amounts borrowed for these improvements based on capacity, this debt service includes principal and interest.

Although the same basis would be used, the Large Users' cost is more complicated because the monthly charges made to each Large Users that includes a portion of the fee paid for debt. The reason that as the owner of the Southern Regional Wastewater Treatment Plant, it is the City of Hollywood's responsibility to borrow funds for all its growth related capital, so all customers, including those who pay bills to the Large Users, are paying principal and interest over 20 or 30 years (SRF loan vs the 2003 bond issue).

Table 2 outlines the current debt repayment schedule for the bonds refunded by the City of Hollywood in 2003. These bonds included refunding of \$68,990,000 in debt from the 1993 refunding issue, that was 64.94 percent allocated to wastewater plant debt to increase plant capacity from 38 to 42 MGD. Table 3 outlines the debt repayment schedule associated with the SRF loans. There are 3 – two older loans for the reuse system constructed in 1994 and 1996, and one pending loan for the 2000 upgrade to the wastewater plant that includes facilities to upgrade the plant to 50 MGD. The allocation is noted on Table 1, totaling just over \$30.5 million.

Since the interest charges are not eligible for impact fee funding, the customers could arguably be credited for the present worth of all interest paid, or more easily calculated, could be asked to pay only the present worth of the principal owed. The present worth should be based on an interest rate over a long period of time. Over the past 80 years the inflation rate is 3.42 percent/yr (see Figures 1 and 2). Table 4 outlines the present worth of the outstanding principal would be and how much would be allocated over the added 12 MGD contemplated from 1992 to date, divided by the number of units assumed given PRMG's estimate of 315 gpd (defined as the typical residential user or ERU) to create an appropriate impact fee using the average annual percent inflation for the period on record. Based on this discount, the impact fee that the City of Hallandale Beach could charge likely should not exceed \$1205 for every 315 gpd of wastewater used. Any fee up to this amount is supported by the data used to calculate the impact fee.

As noted herein, impact fees are not a fee to generate cash – they have strict legal requirements for growth related costs. The intent of this review was to determine what portion of those fees could be used for payment of impact fees. Therefore, if the City of Hallandale Beach wishes to pursue a treatment impact fee, there are two recommendations. First, the fees should be set at a rate lower than the \$1205. Secondly, a mechanism to separate the impact fees, and transmit them annually to the City of Hollywood, in exchange for a reduction in the monthly fee needs to be developed. The interest of the City of Hallandale Beach is to permit the City to buy down its principal amounts which will therefore reduce the amount of debt service (interest and principal) required of current customers in future years. The resulting savings could be used for rate stabilization or other purposes.

As the City of Hallandale Beach is interested in collecting a separate treatment capacity impact fee, it would need to be conveyed annually to Hollywood. The City of Hollywood would need to track the principal buy-down amount, and work with the SRF program to partially pay down debt early. Successive true-ups would need to track the payments made and debt reductions made by individual Large Users. In other words, a separate accounting report would need to be kept and calculated each year for the City of Hallandale Beach. Likewise Hollywood needs to talk to FDEP on the buy-down of debt and set up a different tracking system for the City of Hallandale Beach's Large User debt. The willingness of the City of Hollywood to maintain this set of books, or to track the issue must be negotiated between the municipalities. Since other Large Users may ask for the same opportunity, the City of Hollywood may wish to pursue this option now.

APPENDIX A

Miscellaneous Tables Used in Analysis

Table 1

Estimated Values of Expansion (and Rehab) Projects with Allocation to Growth

Borrowing Instrument	R&R %	Exp %	Exp > 50	Construction Cost (estimate)	Expansion 38 to 50 MGD	Year	Life	Ann Debt	Int Rate	Loan Number
Inj Well SRF Loan SRF		100	0	\$ 8,999,788	\$ 8,999,788	2003	20	\$ 766,167	2.9	59432L 01
Inj Well SRF Loan SRF		78	22	\$ 5,236,100	\$ 4,084,158	2003	20	\$ 347,691	2.9	59432L 01
2000 WWTP Upgrade		100		\$ 4,000,000	\$ 4,000,000	2003	30	\$ 200,000		2003 Bond Ref
2001 WWTP Upgrade SRF		80	20	\$ 4,450,000	\$ 3,560,000	2003	20	\$ 303,069	2.9	59432L 01
2000 WWTP Upgrade	100			\$ 7,200,000	\$ -	2003				2003 Bond Ref
2001 WWTP Upgrade SRF		80	20	\$ 7,123,083	\$ 5,698,486	2003	20	\$ 485,120	2.9	59432L 01
2002 WWTP Upgrade SRF	100			\$ 4,975,000	\$ -	2003				
2000 WWTP Upgrade	84	16		\$ 4,250,000	\$ 680,000	2003	30	\$ 34,000		2003 Bond Ref
Meter Project SRF	100			\$ 2,540,552	\$ -	2002				
Reuse SRF		100		\$ 7,659,023	\$ 7,659,023	1994	20	\$ 595,914	2.36	594270
Reuse SRF		100		\$ 552,000	\$ 552,000	1996	20	\$ 47,684	2.99	594280
64.94% of 2003 Bond Issue		100		\$ 44,802,106	\$ 44,802,106					2003 Bond Ref
Value refunded was \$68,990,000										

Table 2

2003 Refunding Debt Service with Growth

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2004	3,900,000	4,812,145	8,712,145
2005	5,010,000	4,440,064	9,450,064
2006	5,115,000	4,608,211	9,723,211
2007	5,265,000	4,376,690	9,641,690
2008	5,380,000	4,266,125	9,646,125
2009	5,510,000	4,138,350	9,648,350
2010	5,665,000	3,986,825	9,651,825
2011	5,555,000	3,816,875	9,371,875
2012	5,835,000	3,539,125	9,374,125
2013	6,125,000	3,247,375	9,372,375
2014	6,435,000	2,941,125	9,376,125
2015	6,760,000	2,619,375	9,379,375
2016	5,120,000	2,348,975	7,468,975
2017	5,370,000	2,092,975	7,462,975
2018	5,645,000	1,824,475	7,469,475
2019	5,930,000	1,542,225	7,472,225
2020	6,225,000	1,245,725	7,470,725
2021	6,540,000	934,475	7,474,475
2022	6,860,000	607,475	7,467,475
2023	6,460,000	298,775	6,758,775
	<u>\$ 114,705,000</u>	<u>\$ 57,687,385</u>	<u>\$ 172,392,385</u>
Value refunded	\$ 68,990,000		

Table 3

SRF Debt Service Associated with Growth

Princ	\$	22,342,412 2.9	2003	\$	7,659,023 2.36	1994	\$	552,000 2.99	1996	
2009	\$	808,704								
2010	\$	832,157	\$	1,480,087	\$	62,702	\$	28,792	\$	7,445
2011	\$	856,289	\$	1,480,087	\$	54,027	\$	29,660	\$	6,577
2012	\$	881,122	\$	1,480,087	\$	45,145	\$	30,563	\$	5,684
2013	\$	906,674	\$	1,480,087	\$	36,053	\$	31,473	\$	4,764
2014	\$	932,968	\$	1,480,087	\$	26,745	\$	32,421	\$	3,816
2015	\$	960,024	\$	1,480,087	\$	17,217	\$	33,398	\$	2,839
2016	\$	987,864	\$	1,480,087	\$	7,462	\$	34,404	\$	1,833
2017	\$	1,016,512	\$	1,480,087			\$	35,440	\$	797
2018	\$	1,045,991	\$	1,480,087						
2019	\$	1,076,325	\$	1,480,087						
2020	\$	1,107,538	\$	1,480,087						
2021	\$	1,139,657	\$	1,480,087						
2022	\$	1,172,707	\$	1,480,087						
2023	\$	1,206,716	\$	1,480,087						
2024	\$	1,241,710	\$	1,480,087						
2025	\$	1,277,720	\$	1,480,087						
2026	\$	1,314,774	\$	1,480,087						
2027	\$	1,352,902	\$	1,480,087						
2028	\$	1,392,136	\$	1,480,087						
2029	\$	1,432,508	\$	1,480,087						
2030	\$	1,474,051	\$	1,480,087						
	\$	24,417,050	\$	31,081,818	\$	2,382,233	\$	227,349	\$	26,310
										\$
										253,659

Table 4

Given Debt Service Payments, Estimated Large User Impact Fee

Year Princ	Total Principal Paid for Year For Growth 2003 Refund	Total Principal Paid for Year For Growth SRF	Present Worth of Principal	Present Worth of Interest
2009	\$ 2,152,206	\$ 1,202,941	\$ 3,244,195	\$ 4,718,507
2010	\$ 2,212,749	\$ 1,235,937	\$ 3,224,368	\$ 4,389,951
2011	\$ 2,169,783	\$ 1,269,844	\$ 3,109,552	\$ 4,060,485
2012	\$ 2,279,151	\$ 1,304,689	\$ 3,132,784	\$ 3,652,957
2013	\$ 2,392,425	\$ 1,340,497	\$ 3,155,195	\$ 3,255,293
2014	\$ 2,513,511	\$ 1,377,296	\$ 3,179,893	\$ 2,867,276
2015	\$ 2,640,456	\$ 1,415,113	\$ 3,204,941	\$ 2,488,307
2016	\$ 1,999,872	\$ 1,023,305	\$ 2,310,081	\$ 2,171,635
2017	\$ 2,097,522	\$ 1,016,512	\$ 2,300,820	\$ 1,888,919
2018	\$ 2,204,937	\$ 1,045,991	\$ 2,322,534	\$ 1,613,572
2019	\$ 2,316,258	\$ 1,076,325	\$ 2,343,584	\$ 1,344,281
2020	\$ 2,431,485	\$ 1,107,538	\$ 2,363,900	\$ 1,080,930
2021	\$ 2,554,524	\$ 1,139,657	\$ 2,385,938	\$ 823,415
2022	\$ 2,679,516	\$ 1,172,707	\$ 2,405,736	\$ 571,332
2023	\$ 2,523,276	\$ 1,206,716	\$ 2,252,371	\$ 345,493
2024	\$ -	\$ 1,241,710	\$ 725,016	\$ 139,184
2025	\$ -	\$ 1,277,720	\$ 721,371	\$ 114,251
2026	\$ -	\$ 1,314,774	\$ 717,744	\$ 90,245
2027	\$ -	\$ 1,352,902	\$ 714,135	\$ 67,135
2028	\$ -	\$ 1,392,136	\$ 710,544	\$ 44,890
2029	\$ -	\$ 1,432,508	\$ 706,972	\$ 23,481
2030	\$ -	\$ 1,474,051	\$ 703,417	\$ 2,880
Present Worth=			\$ 45,935,090	\$ 35,754,418
Impact Fee Associated with Plant				
Capacity for Growth			\$ 1,205.80	\$ 938.56

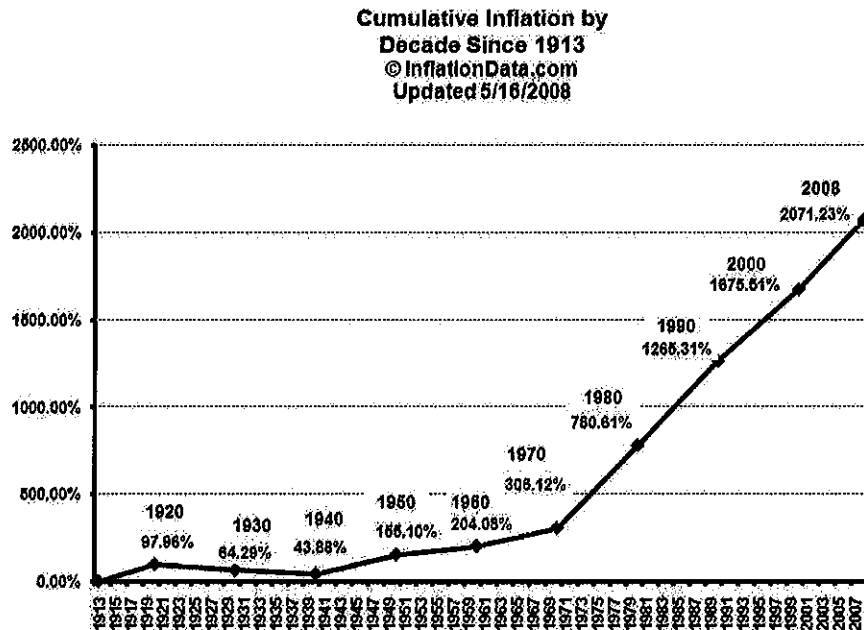


Figure 1 – Cumulative Inflation 1913 to date.

http://inflationdata.com/inflation/images/charts/Annual_Inflation/inflation_Cumulative.htm

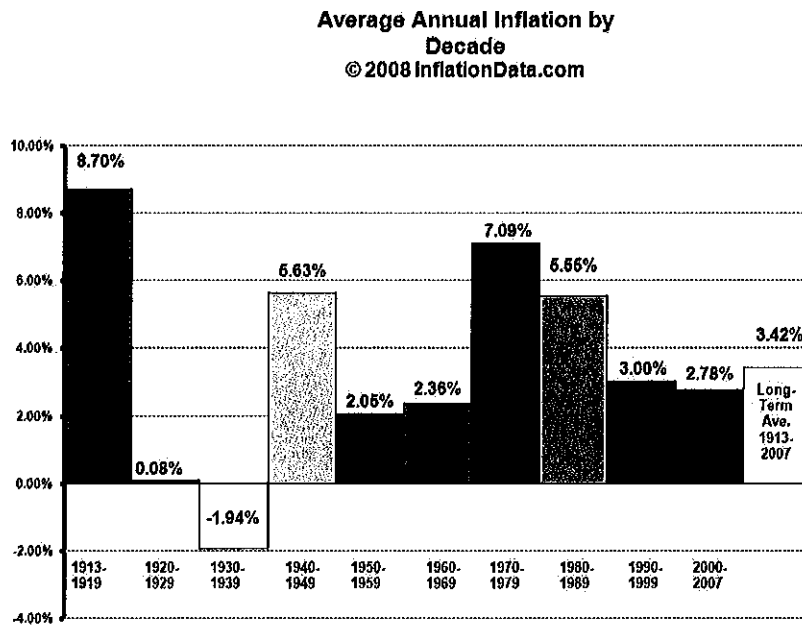


Figure 2 – Average Inflation by Decade – 1913 to date. Average inflation over the period is 3.42 %/year http://inflationdata.com/inflation/images/charts/Articles/Decade_inflation_chart.htm